Office Action Summary	Application No.	Applicant(s)	
	10/716,349	BERG ET AL.	
	Examiner	Art Unit	
	KARLHEINZ R. SKOWRONEK	1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-24* is/are pending in the application.

4a) Of the above claim(s) *18,23 and 24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17 and 19-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/04/2008*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *20080902*.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

In view of the Appeal Brief filed on 07 July 2008, PROSECUTION IS HEREBY REOPENED. A new grounds is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

A new grounds of rejection are being made under 35 USC 103(a) and under 35 USC 112, Second Paragraph.

Claim Status

Claims 17-24 are pending.

Claims 1-16 are cancelled.

Claims 18 and 23-24 are withdrawn as being directed to a non-elected invention.

Claims 17 and 19-22 have been examined.

Claims 17 and 19-22 are rejected.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 04 February 2008 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Interview summary

On 02 September 2008,a telephone call was placed to Ms. Sherwood, the attorney of record, regarding a missing terminal disclaimer with respect to provisional rejection of claims 17 and 19-21 under obviousness type double patenting over claims 1,7, 9, 10, 14, 33, 34, and 35 of application No. 10/220, 999. Ms Sherwood indicated that a terminal for application 10/220,999 would be filed electronically. The interview summary is included with this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites the limitation "the biological dataset profiles" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 22 is dependent from

claim 17 in which a single dataset profile is produced. The method of claim 17 does not require the generation of dataset profiles, thus claim 22 is vague with respect to the source of the other dataset profiles in addition to the one produced by the method of claim 17.

Claim Rejections - 35 USC § 102

Response to Arguments

Applicant's arguments, see Appeal Brief, filed 07 July 2008, with respect to the rejection of claims 17 and 19-22 as anticipated by Friend et al. as evidenced by Cole et al. have been fully considered and are persuasive. The rejection of claim 17 and 19-22 has been withdrawn. It is noted that applicant makes reference to un-entered evidence on p. 5, paragraph 4 of the appeal brief filed 07 July 2008. Applicant is respectfully reminded that reference to un-entered evidence in an appeal brief is not permitted. The evidence was not submitted with the appeal brief of 07 July 2008 and a showing of good and sufficient reasons why the evidence is necessary and was not earlier presented was not made.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 17 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Friend et al. (US PAT 6,801,859), as evidenced by Chung et al. (Journal of Cell Biology, Vol. 95, p. 118-126, 1982).

Claim 17 is directed to a method of analyzing a candidate compound for a biological activity of interest, comprising contacting a test cell culture with said compound, wherein said culture comprises a plurality of factors in an amount sufficient to induce a plurality of pathways; measuring at least two parameters associated with said plurality of pathways and comparing the measurement of said at least two parameters with the measurement from a control cell culture lacking said compound, and recording said measurements of said test cell culture and said control cell culture to produce a biological dataset profile, wherein said biological dataset profile is indicative of the pathways that are active in said cell culture.

Friend et al. teach a method of analyzing a candidate compound for a biological activity of interest, comprising contacting a test cell culture with said compound (col. 34, line 42-43); measuring at least two parameters associated with said plurality of pathways (col. 39, lines 32-33) and comparing (col. 39, lines 34-35) the measurement of said at least two parameters with the measurement from a control cell culture lacking said compound (col.39, line 31), and recording said measurements of said test cell culture and said control cell culture to produce a biological dataset profile (col. 16, lines 32-35), wherein said biological dataset profile is indicative of the pathways that are active in said cell culture. Friend et al. teach the use of human kidney cells to evaluate drugs to generate consensus profiles (col. 10, line 56-59), reading on contacting

cultured mammalian cells with a compound. Friend et al. shows that to measure drug response data, cell are exposed to graded levels of the drug or drug candidate of interest (col. 34, line 42-43).

It is inherent to the culture of mammalian cells to include a plurality of factors that affect a plurality of signaling pathways as evidenced by Chung et al. who demonstrate the culturing of mammalian kidney cells in a culture medium having growth promoting amounts of factors such as epidermal growth factor and insulin among others (p. 119, col. 1).

Regarding claim 22, Friend et al. teach the step of compiling a database of profiles (col. 24, lines 44-46).

As guided by the specification at [0094-0098], candidate agents of interest or candidate compounds are "biologically active agents that encompass numerous chemical classes, primarily organic molecules, which may include organometallic molecules, inorganic molecules, genetic sequences, etc." Based on the guidance provided by the specification, the teaching of Friend et al. and in Chung et al. of a plasmids into cultured mammalian cells reads on the limitation of contacting a test mammalian cell culture with a compound.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 17 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friend et al. (US PAT 6,801,859), in view of Chung et al. (Journal of Cell Biology, Vol. 95, p. 118-126, 1982).

Claim 17 is directed to a method of analyzing a candidate compound for a biological activity of interest, comprising contacting a test cell culture with said compound, wherein said culture comprises a plurality of factors in an amount sufficient to induce a plurality of pathways; measuring at least two parameters associated with

said plurality of pathways and comparing the measurement of said at least two parameters with the measurement from a control cell culture lacking said compound, and recording said measurements of said test cell culture and said control cell culture to produce a biological dataset profile, wherein said biological dataset profile is indicative of the pathways that are active in said cell culture. In an embodiment, the cells are primary cells. In an embodiment, the culture medium includes at least one factor that activates a pathway. In some embodiments, the culture medium include at least one factor that inhibits a pathway. In an embodiment, a profile database is compiled.

Friend et al. teach a method of analyzing a candidate compound for a biological activity of interest, comprising contacting a test cell culture with said compound (col. 34, line 42-43); measuring at least two parameters associated with said plurality of pathways (col. 39, lines 32-33) and comparing (col. 39, lines 34-35) the measurement of said at least two parameters with the measurement from a control cell culture lacking said compound (col.39, line 31), and recording said measurements of said test cell culture and said control cell culture to produce a biological dataset profile (col. 16, lines 32-35), wherein said biological dataset profile is indicative of the pathways that are active in said cell culture. Friend et al. teach the use of human kidney cells to evaluate drugs to generate consensus profiles (col. 10, line 56-59), reading on contacting cultured mammalian cells with a compound. Friend et al. shows that to measure drug response data, cell are exposed to graded levels of the drug or drug candidate of interest (col. 34, line 42-43). Friend et al. teach cells derived from higher multi-cellular organisms (col. 6, lines 34-35) and cells derived from tissue (col. 44, line 66). In an

embodiment, Friend et al. teach the step of compiling a database of profiles (col. 24, lines 44-46).

Friend et al. does not explicitly show primary cell lines and the culture includes a plurality of factors inducing a plurality of signaling pathways.

Chung et al. shows a medium for culturing kidney cells. Chung et al. shows the medium includes insulin which promotes glucose uptake pathway, Epidermal Growth Factor (EGF) that activates the EGF receptor pathway, hydrocortisone is included in the medium(p. 119, col. 1). Chung et al. shows the liver cells are directly obtained from kidney tissue from Rabbit kidneys by a method of that is a combination of perfusion and digestion (p. 119, col. 1-2). Chung et al. shows primary cultures of rabbit kidney cells (p. 120, col.1). In an embodiment, Chung shows the inhibition of the alpha-methyl glucoside uptake pathway by the addition of phlorizin to the culture medium (p.125, col. 1, table II) Chung et al. shows advantageously that the culture of primary kidney cells with different growth factors provides a means for maintaining the distinct characteristics and morphologies of kidney cell types (p. 119, col. 1). Chung et al shows hormonally-defined culture medium provides the benefit of significantly improving the culture conditions of primary kidney epithelial cells (p. 119, col. 1). In addition, Chung et al. shows that another benefit of hormonally-defined culture medium is that the primary kidney cells grown in the defined medium are have a closer resemblance to the tissue from which they are derived (p. 125, col. 2).

It would have been obvious to one of ordinary skill in the art to modify the method of Friend et al. who shows a method of screening compounds using cultured cell lines

the results of which are used to produce response profiles for the compounds with the kidney cell culture medium and primary kidney cell line of Chung et al. because Chung et al. shows hormonally-defined culture medium provides the benefit of significantly improving the culture conditions of primary kidney epithelial cells and the primary kidney cells grown in the defined medium have a closer resemblance to the tissue from which they are derived.

Claims 17 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friend et al. (US PAT 6,801,859), in view of Rice et al. (cited on IDS filed on 10/18/2005, NPL Ref. No. 2).

Claim 17 is directed to a method of analyzing a candidate compound for a biological activity of interest, comprising contacting a test cell culture with said compound, wherein said culture comprises a plurality of factors in an amount sufficient to induce a plurality of pathways; measuring at least two parameters associated with said plurality of pathways and comparing the measurement of said at least two parameters with the measurement from a control cell culture lacking said compound, and recording said measurements of said test cell culture and said control cell culture to produce a biological dataset profile, wherein said biological dataset profile is indicative of the pathways that are active in said cell culture. In an embodiment, the cells are primary cells. In an embodiment, the culture medium includes at least one factor that activates a pathway. In some embodiments, the culture medium include at least one factor that inhibits a pathway. In an embodiment, a profile database is compiled.

Friend et al. teach a method of analyzing a candidate compound for a biological activity of interest, comprising contacting a test cell culture with said compound (col. 34, line 42-43); measuring at least two parameters associated with said plurality of pathways (col. 39, lines 32-33) and comparing (col. 39, lines 34-35) the measurement of said at least two parameters with the measurement from a control cell culture lacking said compound (col.39, line 31), and recording said measurements of said test cell culture and said control cell culture to produce a biological dataset profile (col. 16, lines 32-35), wherein said biological dataset profile is indicative of the pathways that are active in said cell culture. Friend et al. teach the use of human kidney cells to evaluate drugs to generate consensus profiles (col. 10, line 56-59), reading on contacting cultured mammalian cells with a compound. Friend et al. shows that to measure drug response data, cell are exposed to graded levels of the drug or drug candidate of interest (col. 34, line 42-43). Friend et al. teach cells derived from higher multi-cellular organisms (col. 6, lines 34-35) and cells derived from tissue (col. 44, line 66). Friend et al. teach the step of compiling a database of profiles (col. 24, lines 44-46).

Friend et al. doe not explicitly show primary cell lines and the culture includes a plurality of factors inducing a plurality of signaling pathways.

Rice et al. shows the development of a high throughput screen to identify inhibitors of endothelial cell activation. Rice et al. shows that primary cells, HUVE cells, are used (p. 254, col. 2). Rice shows the primary cells in culture are contacted with a compound in which the media includes a plurality of factors (p. 255, col. 1). Rice et al. shows that the test culture includes the pathway activator IL-1beta (p. 257, col. 1). Rice

et al. shows the test culture includes the pathway inhibitor, IL-1ra (p. 257, col. 1). Rice shows endothelial cells have a critical role in the inflammatory response contributing to inflammatory disease and suggest that advantage of identifying inhibitors of endothelial cell activation will lead to useful therapeutics (p. 258, col. 2).

It would have been obvious to one of ordinary skill in the art to modify the method of Friend et al. who shows a method of screening compounds using cultured cell lines the results of which are used to produce response profiles for the compounds with the primary cells and cytokine factors of Rice et al. because Rice et al. shows the role of endothelial cells activation in inflammatory diseases is critical and it would be advantageous to identify inhibitors of endothelial cell activation that will lead to useful therapeutics.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARLHEINZ R. SKOWRONEK whose telephone number is (571) 272-9047. The examiner can normally be reached on 8:00am-5:00pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie Moran can be reached on (571) 272-0720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. R. S./
Examiner, Art Unit 1631

25 September 2008
/John S. Brusca/
Primary Examiner, Art Unit 1631